Review of North Carolina's Striped Bass Fisheries and Monitoring Programs in 2012

Report to the
Atlantic States Marine Fisheries Commission
Striped Bass Technical Committee

North Carolina Department of Environment and Natural Resources

Prepared by

Charlton H. Godwin

North Carolina Division of Marine Fisheries
P.O. Box 769
Morehead City, NC 28557

and

Jeremy W. McCargo
Kevin J. Dockendorf

North Carolina Wildlife Resources Commission
1751 Varsity Drive
Centennial Campus, NCSU
Raleigh, NC 27695

June 2012

I. Introduction

North Carolina's Atlantic Ocean commercial striped bass quota for 2012 was 480,480 pounds (lbs), while the commercial quota in the Albemarle Sound Management Area (ASMA) was 275,000 lbs. The Atlantic Ocean recreational season was open year round with a 28 inch total length (TL) minimum size limit and a two fish daily creel limit. The ASMA recreational fishery had a quota of 137,500 pounds and was open October 1 through April 30 with an 18 inch TL minimum size limit and a three fish daily creel limit. The Roanoke River Management Area (RRMA) recreational fishery had a quota of 137,500 pounds and was open March 1 through April 30 with an 18 inch TL minimum size limit, a 22-27 inch no possession slot limit, and a two fish daily creel limit with only one of those fish being greater than 27 inches TL.

During 2012 the commercial fisheries harvested 293 striped bass that weighed 6,226 pounds in the Atlantic Ocean and 27,299 fish that weighed 115,940 pounds in the ASMA. The recreational fisheries harvested zero fish in the Atlantic Ocean, 22,345 fish that weighed 71,456 pounds in the ASMA, and 28,847 fish that weighed 88,271 pounds in the RRMA.

Total losses for 2012 including all discard mortality and research removals were 102,236 fish that weighed 331,282 pounds.

II. Request for *de minimis*

Not applicable.

III. Previous calendar year's fishery and management program

A. Fishery Dependent Monitoring Programs

i. Commercial Fishery

(1) Characterization of the commercial fishery

North Carolina has two distinct commercial fisheries that harvest on two distinct stocks. The Atlantic Ocean commercial harvest is comprised of fish predominately from the Atlantic Migratory stock, while the Albemarle Sound Management Area (ASMA) commercial harvest is comprised of fish predominately from the Albemarle Sound/Roanoke River (A/R) stock.

There are often dozens of Proclamations associated with the opening/closing of seasons, changing of daily trip limits, closing of areas to gill netting, mesh size restrictions, summer mandatory gill net attendance, etc. All the regulations are aimed at keeping harvest below the TAC and reducing striped bass discards to the minimum amount possible. Proclamations can be found on the North Carolina Division of Marine Fisheries (NCDMF) website at http://portal.ncdenr.org/web/mf/proclamations or will be sent upon request. A list of all proclomations affecting 2012 striped bass fisheries is provided in Appendix A1. The regulations for the 2012 RRMA fishery are in **III.A.ii.(1)RRMA Recreational Fishery**.

Atlantic Ocean Commercial Fishery

The Atlantic Ocean commercial fishery has operated under a 480,480 pound total allowable catch (TAC) since the 2002/2003 fishing season. The TAC is harvested during a quota season which runs from December 1 through November 30, but for stock assessment purposes only landings for the 2012 calendar year are reported in the accompanying Excel File, SB Annual Report Workbook 2013 NC.xlsx. Season opening and closing dates and daily trip limits may be adjusted to remain below the 480,480 pound TAC. If water temperatures are cold enough, Atlantic Migratory striped bass are present in NC's territorial seas from November through March, so the fishery is prosecuted during these months.

The beach seine fishery was open for 138 days with a 28 inch (TL) minimum size limit and a 50 or 150 fish per permit holder trip limit. The TAC allocation to this gear was 160,160 lbs.

The gill net fishery was open for 43 days with a 28 inch (TL) minimum size limit and a 10, 15, or 20 fish per permit holder trip limit. The TAC allocation to this gear was 160,160 lbs.

The trawl fishery was open for 92 days with a 28 inch (TL) minimum size limit and a 50 or 100 fish per permit holder trip limit. The TAC allocation to this gear was 160,160 lbs.

ASMA Commercial Fishery

The ASMA commercial fishery has operated under a 275,000 lb TAC since 2003. The fishery has a spring season which can operate from January 1 through April 30 and a fall season which can operate from October 1 through December 31. Season opening and closing dates and daily trip limits may be adjusted to remain below the 275,000 pound TAC and to reduce discards. Striped bass were not to exceed 50% of the total poundage of the entire finfish landings, a provision implemented to reduce directed effort towards striped bass yet allow other fisheries to harvest striped bass encountered as bycatch. The primary harvest gear is anchored gill nets during the spring American shad (*Alosa sappidissima)* fishery, but landings also occur from flounder gill nets, pound nets, fyke nets, and small mesh gill nets.

The spring season was open from January 1 through April 30, with an 18 inch (TL) minimum size limit and a 10 or 15 fish daily trip limit depending on the other fisheries operating in the ASMA at the time.

The fall season was open from October 1 through December 31, with an 18 inch (TL) minimum size limit and a 10 fish daily trip limit.

(2) Characterization of commercial harvest

(a) Landings and method of estimation

Atlantic Ocean Commercial Fishery

In order to participate in the Atlantic Ocean commercial striped bass fishery, individuals holding a NC Standard Commercial Fishing License (SCFL) had to first obtain a permit declaring which gear type they would be using for the fishing season. Once a gear is declared, the permit holder must use that gear for the next three fishing seasons. Dealers could not possess, buy, sell, or offer for sale, striped bass taken from the Atlantic Ocean without first obtaining a current Atlantic Ocean Commercial Dealer Striped Bass Permit from the NCDMF. Dealer permits were issued only to individuals holding a valid North Carolina finfish dealer's license. Dealers were required to affix either a NCDMF issued striped bass tag or similar tag issued by the state of origin for imported striped bass, through the mouth and gill cover. Dealers were required to report daily landings (numbers of tags used and pounds landed) by noon of the following day to the NCDMF Elizabeth City office to determine closing of the season to remain below the TAC.

During the 2012 calendar year 293 fish that weighed 6,226 lbs were harvested (Table 1). The time series for North Carolina's Atlantic Ocean commercial landings are reported in the accompanying Excel File, SB Annual Report Workbook 2013 NC.xlsx. The coastal migratory stock never came down below the Virginia/North Carolina border, eliminating any potential harvest.

ASMA Commercial Fishery

In order to harvest striped bass commercially individuals must hold a NC SCFL. Dealers could not possess, buy, sell or offer for sale, striped bass taken from the ASMA without first obtaining a valid ASMA Dealer's Striped Bass Permit. No dealer could pack or sell striped bass without having affixed either a NCDMF ASMA striped bass tag or a

similar tag issued by the state of origin for imported striped bass. Dealers were required to report daily landings (numbers of tags used and pounds landed) by noon of the following day to the NCDMF Elizabeth City office to determine closing of the season to remain below the TAC.

The 2012 spring ASMA commercial fishery harvested 25,276 fish that weighed 105,109 lbs (Table 2).

The 2012 fall ASMA commercial fishery harvested 2,023 fish that weighed 10,831 lbs (Table 3).

(b) Catch composition

Atlantic Ocean Commercial Fishery

Landings were sampled from each gear, either at the fish house as the catch was unloaded, or in situ during the beach seine fishery. There was a target of 600 samples for the season, with samples distributed among gear types based on daily quota monitoring reports by gear. Fish were measured to the nearest mm for fork length (FL) and TL and weighed to the nearest 0.1 kg. Sex was determined using the Sykes (1957) method and scales were obtained from between the dorsal fins for each sample. Numbers of fish per year class were assigned using the following formula:

$$YC_N = L_T \times WTSYC_{S\%} / WTSYC_{SAVG}$$

Where YC_N is the number of individuals per year class, L_T is total landings, $WTSYC_{S\%}$ is the sample percent weight per sex, per year class, and $WTSYC_{SAVG}$ is the sample average weight per individual, per sex, per year class.

ASMA Commercial Fishery

There was a target of 600 samples for the spring season and 300 for the fall season. Landings were sampled weekly at fish houses throughout the ASMA with sampling effort distributed accordingly based on daily quota monitoring reports. All other methods were the same as detailed in III.A.i.(2)(b) Catch composition Atlantic Ocean Commercial Fishery.

(i) Age frequency

There were 21 samples (length, weight, sex, scales) obtained from the Atlantic Ocean commercial harvest (Table 4). The length weight equation (y-intercept = -7.36155; slope = 2.86784) is provided in the accompanying Excel file Annual Report Workbook 2013 NC.xlsx.

There were 632 samples (length, weight, sex, scales) obtained from the ASMA commercial fishery (Table 4). A length weight equation was not generated because removals from the ASMA are not included in the ASMFC coastwide Atlantic migratory stock assessment. Age expansion (catch at age) is provided in Tables 1 – 3. Mean length and weight at age is provided in Tables 5 – 7.

(ii) Length frequency

Length frequency for the Atlantic Ocean sample is provided in Figure 1 and in the accompanying Excel file Annual Report Workbook 2013 NC.xlsx.

Length frequencies for the ASMA spring and fall samples are provided in Figures 2 and 3 and in Table 4.

(iii) Sex

Expanded sex ratios are provided in Tables 1 – 3. Sex ratios were Male:Female 1.00:2.49 for the Atlantic Ocean and Male;Female 1.00:1.17 for the ASMA.

(c) Estimation of effort

Effort and catch cannot be used to estimate overall CPUE by participant, because a trip with zero striped bass catch will not be included in data collected by the NCDMF TTP. In addition, while the Atlantic Ocean is a directed fishery, the ASMA is a bycatch fishery that includes daily trip limits. Furthermore, transfers at sea or at the dock can occur to other permitted SCFL holders. The intent of this is to allow fisherman that catch over their daily landing limit to transfer these fish to other permit holders to reduce regulatory discards.

ii. Recreational Fishery

(1) Characterization of the recreational fishery

North Carolina has three distinct recreational fisheries that harvest on two distinct stocks. The Atlantic Ocean recreational harvest is comprised of fish predominately from the Atlantic Migratory stock, while the ASMA and Roanoke River Management Area (RRMA) recreational harvest is comprised of fish predominately from the A/R stock. A list of Proclamations is provided in Appendix A1.

Atlantic Ocean Recreational Fishery

North Carolina maintained a 28 in TL minimum size limit with a two fish per person per day creel limit for 2012. The season remained open throughout 2012.

Starting in 2005 and continued annually since, a program was initiated in NC in which anglers were required to report all Atlantic Ocean harvested striped bass from the NC/VA line, south to Ocracoke Inlet, for the months of May through October (Waves 3 – 5). Termed the “catch card survey” the reporting procedure requires that any striped bass harvested recreationally in the designated area must have a landing tag affixed to the fish before it is removed from the vessel. Anglers that harvested striped bass from fishing piers reported their catch at the pier house before leaving the pier. Surf fishermen reported their catch to the nearest reporting station. Reporting stations were established throughout Dare, Currituck, and Hyde counties. Atlantic Ocean striped bass released alive were not required to be reported. The purpose of the program was to obtain more accurate data on striped bass harvested from the Atlantic Ocean during waves 3 – 5.

ASMA Recreational Fishery

The ASMA recreational catch is limited by an annual harvest allocation and regulated by size restrictions, creel limits, and seasonal closures. The 2012 harvest allocation of 137,500 lbs was divided between a spring season (January – April) and a fall season (October – December). The 2012 spring and fall seasons operated under a three fish per person per day creel limit. An 18 in TL minimum size limit was in effect for both seasons. Both seasons were open seven days a week.

Striped bass were also harvested using the NCDMF issued Recreational Commercial Gear License (RCGL), which allowed an individual to fish limited amounts of various commercial gears for recreational purposes. RCGL holders were constrained by the same regulations in effect for recreational fishermen and were prohibited from selling their catch. Due to funding cuts there was no harvest estimate for these license holders in 2012. Harvest estimates from 2002 through 2007 averaged ~ 2,000 lbs.

RRMA Recreational Fishery

The recreational fishery in the RRMA is regulated through a limited open harvest season, daily possession limits and size limits. For the 2011 season, by rule, the harvest season opened on 1 March and closed on 30 April. The daily possession limit was two fish, the minimum length limit was 18 inches (TL) and a protective slot size limit was in effect that prohibited possession of striped bass between 22 and 27 inches (TL). In addition, only one striped bass greater than 27 inches could be retained in the creel limit. Since 1997, anglers have been required to use only single, barbless hooks in zone 1 from 1 April through 30 June to reduce catch and release mortality.

(2) Characterization of directed harvest

(a) *Landings and method of estimation*

Atlantic Ocean Recreational Fishery

The Marine Recreational Fishery Statistics Survey (MRFSS), now known as the Marine Recreational Information Program (MRIP) has been conducted annually by the National Marine Fisheries Service (NMFS) in North Carolina since 1979. The survey consists of telephone and on-site angler interviews. The telephone interviews were used to collect data on number of trips, fishing locations, and when the trips were made. Information on actual catch (species, number, weight (0.01 kg), FL, and TL) was collected through on-site angler interviews. The data from both types of interviews were combined to produce estimates of total numbers and pounds of striped bass harvested, and total numbers of striped bass released from North Carolina's territorial seas.

All harvest, release, and length frequency data is obtained from MRIP. Harvest data (Type A + B1) and released alive data (Type B2) were queried By Wave, All Modes, All Ocean. Only information from Waves 1, 2, and 6 were used due to the high PSE often associated with Waves 3, 4, and 5 estimates.

During 2012 the Atlantic Ocean recreational fishery harvested zero fish. The coastal migratory stock never came down below the Virginia/North Carolina border, eliminating any potential harvest. The time series for North Carolina's Atlantic Ocean recreational landings are reported in the accompanying Excel File, SB Annual Report Workbook 2013 NC.xlsx.

There was 1 striped bass that weighed 14 pounds reported as harvested through the catch card survey. Total length was 35 inches. The fish was harvested June 5, 2012.

ASMA Recreational Fishery

Catch and effort data were collected through on-site interviews at boat ramps during allowed harvest days for each of four ASMA sampling zones. Statistics were calculated through a non-uniform probability access-point creel survey (Pollock et al. 1994). Site probabilities were set in proportion to the likely use of a site according to time of day, day of week, and season. Probabilities for this survey were assigned based on seasonal striped bass fishing pressure observed during past surveys, in addition to anecdotal information of fishing activity for the current year. Probabilities can be adjusted during the survey period according to angler counts to provide more accurate estimates. Morning and afternoon periods were assigned unequal probabilities of conducting interviews, with each period representing half a fishing day. These values varied among sites within zones due to differing fishing pressure. A fishing day was defined as 1.5 hours after sunrise until 1.0 hour after sunset.

Striped bass sampled during the surveys were measured for TL (mm) and weighed to the nearest 0.1 kg. No scales were collected for ageing purposes. Estimations of age composition were based on an age-length key derived from commercial harvest samples.

During 2012 the ASMA recreational fishery harvested 22,345 fish that weighed 71,456 lbs (Table 8). Spring harvest was 62,028 lbs and fall harvest was 9,428 lbs.

RRMA Recreational Fishery

North Carolina Wildlife Resources Commission (NCWRC) personnel used a non-uniform probability stratified access-point creel survey design (Pollock, et al. 1994) to estimate recreational fishing effort, harvest, and numbers of striped bass caught and released from the RRMA for the period 1 March through 30 April 2012.

The survey was stratified by area (zone), time (period), and kind of day (weekdays and weekend days). The upper zone (1) includes the river segment from Roanoke Rapids Lake dam downstream to the U.S. Highway 258 bridge near Scotland Neck. The lower zone (2) extends from U.S. Highway 258 bridge downstream to Albemarle Sound. Because past experience has shown differential catch rates through progression of the open harvest season, the survey was stratified into 2-week sample periods. Within periods, fishing effort and catch is also known to vary as a function of day type so samples and estimates were further stratified by kind of day. Selection of access points where interviews occurred was based upon probability of use data generated from prior creel surveys on the Roanoke River. Probability of fishing activity for time of day (0.4 for AM and 0.6 for PM during periods one and two, and equal probabilities during all other periods) was estimated based upon prior experience with the Roanoke River striped bass fishery.

During 2012 the RRMA recreational fishery harvested 28,847 fish that weighed 88,271 lbs (Table 9).

(b) Catch composition

(i) Age frequency

The age frequency for North Carolina's Atlantic Ocean recreational harvest is generated by the ASMFC striped bass stock assessment sub-committee using other state's age length information. Year class composition for the ASMA and RRMA recreational harvests are presented in Tables 8 and 9 respectively.

(ii) Length frequency

Not applicable because no recreational harvest was reported for the Atlantic Ocean.

There were 1,057 length samples collected from the ASMA recreational catch (Figures 4 and 5) and 688 length samples collected from the RRMA recreational catch (Figure 6). Length-weight parameters were not calculated for the ASMA and RRMA recreational sample as that harvest is not used in the Atlantic Migratory stock assessment.

(iii) Sex

Sex information is not collected from the Atlantic Ocean or ASMA recreational catches. Sex ratio from the RRMA recreational catch sample was Male:Female 1.00:0.44. Sex expansion to the total RRMA harvest is presented in Table 9.

(c) Estimation of effort

There were 15,508 angler trips targeting striped bass in the Atlantic Ocean. In the ASMA there were 14,490 vessel trips (102,787 angler hours) for striped bass, and in the RRMA there were 26,648 angler trips (119,917 angler hours) for striped bass (Table 10).

iii. Other Losses (poaching, hook & release mortality, bycatch, etc.)

The available data to estimate losses from poaching is limited. In 2012 Marine Patrol confiscated 59 lbs of striped bass.

Hook and release mortality in the Atlantic Ocean fishery is calculated by applying 9% release mortality to all estimated releases. Hook and release mortality in the ASMA and RRMA is calculated by applying 6.4% release mortality (Nelson 1998) to all releases. The MRFSS estimated 1,615 fish released alive in the Atlantic Ocean during 2012, resulting in 145 additional losses, although the PSEs were over 90%. There were an estimated 5,631 dead discards equaling 16,877 lbs in the ASMA and RRMA recreational fisheries in 2012.

Bycatch losses for the ASMA commercial gill net fisheries were estimated by determining four things: 1) total gill net trips by gill net category (categories are small mesh net trips, flounder net trips, and shad net trips), 2) average yards of gill net set per trip, 3) striped bass catch rates, and 4) striped bass at net mortality rates (no estimates of delayed mortality are available).

The number of striped bass discard losses at age was estimated from the IGNS data. Numbers of discards by mesh size (large vs. other/small) were proportioned into year classes based on the composition of year classes in the 3.0 and 3.5 ISM and the 5.5 ISM nets respectively from the IGNS. The numbers were then converted into pounds based on the mean weight at age for a particular year class.

For any given category, once the number of trips, yards per trip, striped bass catch rates (# striped bass per yard of gill net), and striped bass at net mortality rates were determined; striped bass bycatch losses were calculated using the following formula:

$$B^{L} = [\, T^{\#} \times Y^{\#} \times B^{stb} \times M \,] - H$$

where B^{L} = bycatch losses, $T^{\#}$ = total number of gill net trips, $Y^{\#}$ = yards per trip, B^{stb} = bycatch of striped bass per yard of gill net, M = discard mortality, and H = harvest.

Bycatch losses for the ASMA commercial gill net fisheries were estimated at 15,910 fish (27,543 lbs), and were attributed predominately to the small mesh gill net fishery (Table 11). The majority of the discards were undersize occurring in the small mesh fisheries and from the 2010 and 2008 year classes.

iv. Total Harvest & Losses

Total harvest and losses are summarized in Table 12.

B. Fishery Independent Monitoring Programs

North Carolina is required through Amendment 6 to the ASMFC Interstate FMP for Atlantic Striped Bass to conduct a juvenile abundance survey in the Albemarle Sound and a spawning stock survey in the Albemarle Sound and Roanoke River for the A/R stock. Results from the required independent monitoring programs are detailed in the text, however

spreadsheets of length frequency, age length keys, etc are not provided as the results are not used in the coastwide Atlantic migratory striped bass stock assessment.

i. Results

(1) Juvenile Abundance Survey: The NCDMF juvenile abundance survey has 7 fixed stations in western Albemarle Sound, the primary nursery area for A/R juvenile striped bass. Stations are sampled bi weekly from mid July through October for a total of 56 samples. Tow times are 15 minutes using a semi-balloon trawl with an 18 ft head rope, constructed of 1½ in stretched mesh webbing in the body and ½ inch stretched mesh webbing in the cod end. The results from the survey comprise the A/R JAI. Catch per unit effort is calculated as the arithmetic mean of number of striped bass per tow for comparison to the long-term data series.

A total of 168 YOY striped bass was collected in 56 trawls, for a JAI of 3.0, below the long-term average of 8.5 (Table 13: Figure 7). Striped bass were collected during each sampling week, and there were 22 tows with zero catch. Total length ranged from 45 to 154 mm and the mean TL increased an average of 4.0 mm per week, from 58 mm on 16 July to 154 mm on 22 October (Table 14).

(2) Spawning stock assessments and stock characterization: North Carolina annually conducts two spawning stock surveys on the A/R stock. One survey is conducted by the NCDMF using gill net and the other is conducted by the NCWRC using electrofishing gear.

North Carolina also participates in an annual cooperative effort to tag and assess the age composition of the Atlantic migratory stock over wintering off southern VA and/or northern NC. The survey has been conducted annually since the winter of 1988. This survey is conducted through joint efforts of the National Marine Fisheries service (NMFS), Maryland Department of Natural Resources (MDNR), US Fish and Wildlife Service (USFWS), and NCDMF, utilizing National Oceanic and Atmospheric Administration (NOAA) vessels and trawl gear. The majority of the striped bass captured were measured and tagged with USFWS internal anchor tags. Scales for ageing and TL mm were obtained from a representative portion of the oceanic migratory striped bass captured during the survey. Scales were processed as described in earlier sections. All readable scales collected from the COOP Survey were aged. However, due to funding cuts, the survey platform changed and used charter boats in the Atlantic Ocean striped bass fishery to catch striped bass by hook and line for tagging purposes.

Independent Gill Net Survey: The stratified-random multiple-mesh Independent Gill Net Survey (IGNS) began in 1990 to monitor the striped bass resident and overwintering fall/winter population in the Albemarle and Croatan Sounds and the A/R striped bass spring spawning population. The 12 different mesh sizes used allow capture of fish age one and older. Only results from the spring spawning survey which is concentrated around the mouth of the Roanoke River are reported here. An in-depth methodology is available by request.

A total of 1,175 striped bass were collected in 1,008 units of effort for a CPUE of 1.17, above the long-term average of 0.82 (Table 15). Year class composition, age expansion, and sex ratio are provided in Table 16. The length frequency graph is provided in Figure 8.

DEVIATIONS: None.

- Electrofishing Survey: NCWRC personnel sampled striped bass weekly from 5 April through 18 May with a boat-mounted electrofishing unit (Smith-Root 7.5 GPP; 1

netter and 1 boat operator) during daylight hours in the vicinity of Gaston (rm 135) and Weldon (rm 129), the historical spawning area for Roanoke River striped bass. Relative abundance of striped bass for each sample was indexed by catch-per unit-effort (CPUE) and expressed as number of fish captured per hour (fish/h). Overall pooled CPUE (Σ fish collected/Σ hours of electrofishing effort) for all 2012 sample sites and daily pooled CPUE were calculated.

Weekly electrofishing sampling in the Roanoke River between 9 April and 2 May yielded 2,652 striped bass. Forty-two of striped bass were collected from separate broodstock sampling sites and were removed from relative abundance calculations. Sex ratio was Male:Female 3.93:1.00 Overall relative abundance of striped bass for 2012 was 151.2 fish/h (Tables 17 and 18; Figure 9). Year class composition, mean length, and mean weight at age are presented in Table 19. The length frequency is presented in Figure 10.

North Carolina Cooperative Winter Tagging Cruise: During the 2012 North Carolina Cooperative Winter Tagging, six striped bass were collected using hook and line. Scale samples and total length were taken from all fish, they were tagged and released. The 1994-2006 year classes were represented in the sample. Fish ranged from 635 to 1,171 inches (Table 20).

(3) Tagging: The NCDMF has tagged striped bass since 1980. Currently tags are manufactured by Floy (FM-84) with a tube length of 90 mm and anchor disc dimensions of 5 mm x 15 mm. Tags were inserted in the abdominal cavity on the left side posterior to the pectoral fin.

During the 2011/2012 fall/winter IGNS, 2012 spring spawning stock IGNS, and the 2012 electrofishing spawning stock survey, 215, 206, and 2,652 striped bass were tagged respectively. A complete tagging report is available upon request.

(4) Research Removals: There were 1,219 striped bass that weighed 1,660 lbs sacrificed for research purposes in 2012 (Table 12). Unless spoiled, all sacrificed striped bass from the IGNS were donated to the local food bank.

IV. Planned management programs for the current calendar year.

A. Summarize regulations that will be in effect.

Regulations for the 2013 season will remain unchanged.

B. Summarize monitoring programs that will be performed.

The NCDMF and NCWRC will perform the same monitoring programs as outlined in Amendment 6: Catch composition of the commercial and recreational fisheries, juvenile abundance surveys, spawning stock surveys, and tagging programs.

C. Highlight any changes from the previous year.

None.

LITERATURE CITED

Nelson, K. L.
1998 Catch and release mortality of striped bass in the Roanoke River, North Carolina. Trans. Am. Fish. Soc. 18:25-30.

Pollock, K.H., C.M. Jones and T.L. Brown.
1994 Angler survey methods and their applications in fisheries management. American Fisheries Society Special Publication 25.

Sykes, J.E.
1958 A method of determining the sex of the striped bass, Roccus saxatilis (Walbaum). Trans. Am. Fish. Soc. 87:104-107.

LIST OF TABLES

LIST OF FIGURES

Table 1. Estimated number of striped bass by year class and sex harvested from the Atlantic Ocean commercial fisheries, NC, 2012 calendar year. Percent composition is by number.

Year Class	Male			Female			Totals		
	N	LBS	% Comp (N)	N	LBS	% Comp (N)	N	LBS	% Comp (N)
2004				14	220	4.8	14	220	4.8
2003	56	955	19.1	83	1,408	28.3	139	2,363	47.4
2002	14	257	4.8	28	612	9.6	42	869	14.3
2001				56	1,384	19.1	56	1,384	19.1
2000	14	392	4.8				14	392	4.8
1999				14	459	4.8	14	459	4.8
1997				14	539	4.8	14	539	4.8
Totals	84	1,604	28.7	209	4,622	71.3	293	6,226	100.0

Note. Table may not add due to rounding.

Table 2. Estimated number of striped bass by year class and sex harvested during the spring commercial harvest, Albemarle Sound Management Area, NC 2012. Percent composition is by number.

Year-class	Male			Female			Totals		
	N	LBS	% Comp (N)	N	LBS	% Comp (N)	N	LBS	% Comp (N)
2009	90	207	0.4				90	207	0.4
2008	2,868	7,834	11.3	3,047	8,313	12.1	5,916	16,147	23.4
2007	2,913	10,248	11.5	2,734	9,861	10.8	5,647	20,109	22.3
2006	3,316	13,436	13.1	3,540	14,877	14.0	6,857	28,313	27.1
2005	2,106	10,642	8.3	3,316	17,224	13.1	5,423	27,866	21.5
2004	314	2,255	1.2	717	4,175	2.8	1,031	6,430	4.1
2003	45	850	0.2	90	1,433	0.4	134	2,282	0.5
2002				134	2,766	0.5	134	2,766	0.5
2000				45	988	0.2	45	988	0.2
Totals	11,652	45,471	46.1	13,624	59,638	53.9	25,276	105,109	100.0

Note. Table may not add due to rounding.

Table 3. Estimated number of striped bass by year class and sex harvested during the fall commercial harvest, Albemarle Sound Management Area, NC 2012. Percent composition is by number.

	Male			Female			Totals		
Year Class	N	LBS	% Comp (N)	N	LBS	% Comp (N)	N	LBS	% Comp (N)
2009	116	301	5.71	29	73	1.43	144	374	7.14
2008	578	2,086	28.57	231	915	11.43	809	3,001	40.00
2007	260	1,095	12.86	173	852	8.57	433	1,948	21.43
2006	58	257	2.86	58	336	2.86	116	594	5.71
2005	144	935	7.14	260	2,145	12.86	405	3,080	20.00
2004	116	1,835	5.71			0.00	116	1,835	5.71
Totals	1,271	6,509	62.86	751	4,322	37.14	2,023	10,831	100.00

Note. Table may not add due to rounding.

Table 4. Summary of 2012 North Carolina commercial striped bass sampling from the Atlantic Ocean and Albemarle Sound Management Area.

Fishery	Length Frequency Sample Size	# Age Samples in Age Length Key
Atlantic Ocean Gill Net	21	21
ASMA Gill Net	411	159
ASMA Pound Net	221	115

Table 5. Year class composition, total length (mm) and weight (kg) data for striped bass sampled from the Atlantic Ocean commercial harvest, NC 2012 calendar year. Length and weight data are for aged fish only. Standard deviations are listed in parentheses.

		Total Length (mm)			Weight (kg)		
Year Class	N Aged	Mean	Min	Max	Mean	Min	Max
2004	1	886			7.2		
2003	10	908 (23)	869	944	7.7 (0.7)	6.8	9
2002	3	951 (47)	900	992	9.5 (1.0)	8.4	10.4
2001	4	1,025 (50)	978	1,070	11.3 (0.9)	10.8	12.6
2000	1	1,040			12.8		
1999	1	1,105			15		
1997	1	1,200			17.6		
Totals	21						

Table 6. Year class composition, total length (mm) and weight (kg) data for striped bass sampled from the Albemarle Sound Management Area spring commercial harvest, NC 2012. Length and weight data are for aged fish only. Standard deviations are listed in parentheses.

		Total Length (mm)			Weight (kg)		
Year Class	N Aged	Mean	Min	Max	Mean	Min	Max
Male							
2009	3	465 (6)	462	472	1.05 (0.20)	0.91	1.19
2008	29	484 (20)	457	534	1.21 (0.23)	0.94	1.93
2007	15	530 (20)	486	560	1.60 (0.25)	1.06	1.94
2006	25	563 (63)	502	826	1.91 (0.64)	1.24	4.31
2005	25	602 (42)	550	705	2.50 (0.54)	1.76	3.90
2004	6	657 (97)	582	842	3.39 (1.42	2.18	6.00
2003	1	898			8.60		
Female							
2008	30	496 (21)	462	546	1.24 (0.27)	0.90	1.87
2007	19	531 (32)	474	609	1.64 (0.37)	0.91	2.59
2006	21	571 (41)	515	656	2.00 (0.57)	1.20	3.28
2005	25	616 (55)	548	764	2.49 (0.86)	1.50	5.40
2004	10	646 (45)	587	727	2.85 (0.61)	2.12	4.11
2003	2	897 (20)	883	911	7.25 (0.64)	6.80	7.70
2002	2	949 (1)	948	949	9.90 (0.14)	9.80	10.00
2000	1	953			10.00		
Totals	214						

Table 7. Year class composition, total length (mm) and weight (kg) data for striped bass sampled from the Albemarle Sound Management Area fall commercial harvest, NC 2012. Length and weight data are for aged fish only. Standard deviations are listed in parentheses.

		Total Length (mm)			Weight (kg)		
Year Class	N Aged	Mean	Min	Max	Mean	Min	Max
Male							
2009	4	490 (32)	462	525	1.18 (0.34)	0.85	1.50
2008	20	535 (42)	490	662	1.64 (0.44)	1.17	2.65
2007	9	564 (15)	545	582	1.91 (0.41)	1.41	2.45
2006	2	591 (16)	580	602	2.02 (0.68)	1.54	2.50
2005	5	662 (58)	580	726	2.94 (0.80)	1.78	4.00
2004	4	866 (83)	820	990	7.20 (1.06)	6.2	8.50
Female							
2009	1	470			1.15		
2008	8	547 (14)	523	568	1.80 (0.26)	1.24	2.05
2007	6	593 (25)	574	641	2.23 (0.47)	1.64	3.00
2006	2	623 (74)	570	675	2.64 (0.79)	2.08	3.20
2005	9	704 (63)	615	794	3.74 (1.38)	1.66	6.25
Totals	70						

Table 8. Estimated number of striped bass harvested during the 2012 Albemarle Sound Management Area spring and fall recreational fishery.

Year class	Percent contribution	N
Spring		
2009	2.3	448
2008	52.7	10,405
2007	21.2	4,177
2006	16.8	3317
2005	6.1	1199
2004	0.9	169
2003	0.1	28
Total	100.0	19,743
Fall		
2009	57.9	1,507
2008	22.8	592
2007	9.1	236
2006	4.8	125
2005	1.1	29
2004	1.1	28
2003	3.3	85
Total	100.0	2,602

Table 9. Estimated number of striped bass harvested during the 2012 Roanoke River Management Area recreational fishery. N represents the actual number of striped bass measured in the creel survey.

Sex and Year Class	Age	N	Percent Composition	Estimated Number in Recreational Harvest
Males				
2009	3	99	20.8%	4,175
2008	4	280	58.9%	11,809
2007	5	80	16.8%	3,374
2006	6	8	1.7%	337
2005	7	8	1.7%	337
Total		475	100.0%	20,033
Females				
2009	3	31	14.8%	1,307
2008	4	175	83.7%	7,380
2007	5	0	0.0%	0
2006	6	0	0.0%	0
2005	7	2	1.0%	84
2004	8	1	0.5%	42
Total		209	100.0%	8,814

Table 10. Estimated recreational effort for striped bass in North Carolina, 2012.

Fishery	Trips	Angler hours
Atlantic Ocean	15,508	N/A
Albemarle Sound Management Area spring	10,207	70,446
Albemarle Sound Management Area fall	4,283	32,341
Roanoke River Management Area		119,917
Totals		

Table 11. Estimated discard mortality attributed to the Albemarle Sound Management Area commercial gill net fisheries in 2012.

Fishery	Year Class	N	Percent (N)	Pounds	Percent (lbs)
Flounder					
	2007	161	1.01	543	1.97
	2006	513	3.23	2,174	7.89
	2005	450	2.83	2,174	7.89
Total		1,125	7.07	4,891	17.76
Shad					
Total		0	0.00	0	0.00
Small/other					
	2010	6,760	42.49	4,769	17.31
	2009	4,006	25.18	7,153	25.97
	2008	3,666	23.04	9,538	34.63
	2007	353	2.22	1,192	4.33
Total		14,785	92.93	22,652	82.24
Grand Total		15,910	100.00	27,543	100.00

Table 12. Total striped bass losses for North Carolina (Atlantic Ocean, Albemarle Sound Management Area, and Roanoke River Management Area), in 2012.

Fishery	Area	N	LBS
Commercial			
	ASMA		
	harvest	27,299	115,940
	bycatch mortality	15,910	27,543
	Atlantic Ocean		
	harvest 2012 cal year	293	6,226
	bycatch mortality	no	estimate
Recreational			
	ASMA		
	harvest	22,345	71,456
	discard mortality	1,598	3,164
	RRMA		
	harvest	28,847	88,271
	discard mortality	4,033	13,713
	Atlantic Ocean		
	harvest 2012 cal year	0	0
	discard mortality	145	2,610
Research			
	ASMA		
	Independent Gill Net Survey	1,177	1,257
	RRMA	121	644
Confiscations			
		not available	59
Aquaculture			
	ASMA	0	0
	RRMA	0	0
Broodstock			
	ASMA	0	0
	RRMA	59	399
RCGL			
	ASMA	no	estimate
TOTALS		**101,827**	**331,282**

Table 13. Juvenile Abundance Index (JAI) for A/R striped bass young-of-year trawl sampling in western Albemarle Sound NC 1955-2012.

Year	Western Sound Trawls
1955	3.3
1956	19.1
1957	5.7
1958	0.2
1959	23.9
1960	5.9
1961	10.3
1962	7.9
1963	4.8
1964	3.1
1965	10.1
1966	3.5
1967	23.4
1968	6.6
1969	3.0
1970	12.5
1971	2.9
1972	2.5
1973	2.0
1974	5.5
1975	10.8
1976	10.5
1977	3.6
1978	0.6
1979	0.6
1980	0.5
1981	0.1
1982	3.8
1983	0.8
1984	0.4
1985	1.2
1986	0.1
1987	0.1
1988	4.1
1989	4.3
1990	1.4
1991	0.9
1992	2.6
1993	44.5
1994	38.2
1995	9.9
1996	31.5
1997	5.4
1998	7.0
1999	0.8
2000	58.8
2001	3.3
2002	7.3
2003	0.3
2004	1.7
2005	34.6
2006	3.0
2007	7.2
2008	6.6
2009	0.4
2010	8.9
2011	15.1
2012	3.0
Mean	8.4

Table 14. Number, mean TL (mm), and range TL (mm) of striped bass young-of-year collected during bi-weekly trawls in western Albemarle Sound, NC, 2012.

2012	Date								
Calendar Week	29	31	33	35	37	39	41	43	
Station	16 Jul	30 Jul	13 Aug	27 Aug	10 Sept	24 Sept	8 Oct	22 Oct	Totals
Brickhouse (149)	7	4	3	1	2	6	4	2	29
Nixons Beach (137)	3	0	0	0	2	0	1	7	13
Georges Beach (150)	4	1	0	0	0	0	0	0	5
Batemans Beach (151)	0	2	0	0	0	6	0	1	9
Albemarle Beach (152)	6	0	1	0	0	2	2	1	12
Black Walnut Point (139)	0	2	0	2	29	10	23	19	85
Cape Colony (153)	0	0	0	0	0	1	10	4	15
Totals	20	9	4	3	33	25	40	34	168
Mean TL mm	58	70	75	89	85	94	94	115	85
Range TL mm	48-70	45-76	58-81	62-86	79-123	73-130	86-135	88-154	41-130
CPUE	2.9	1.3	0.6	0.4	4.7	3.6	5.7	4.9	3.0

Table 15. Catch per unit effort (CPUE) from the spring spawning stock Independent Gill Net Survey, conducted in the western Albemarle Sound, NC, 1990-2012.

Spring Segment	Effort	N	CPUE
1991	1,964	2,084	1.06
1992	2,330	1,091	0.47
1993	2,230	614	0.28
1994	2,032	413	0.20
1995	1,950	1,989	1.02
1996	1,883	1,227	0.65
1997	1,925	1,707	0.89
1998	1,909	1,961	1.03
1999	1,991	2,302	1.16
2000	2,011	1,829	0.91
2001	1,867	1,789	0.96
2002	1,850	1,623	0.88
2003	2,166	884	0.41
2004	1,948	1,886	0.97
2005	1,964	1,451	0.74
2006	1,934	1,906	0.99
2007	1,923	973	0.51
2008	1,801	2,417	1.34
2009	1,559	1,204	0.77
2010	1,362	1,415	1.04
2011	1,447	1,721	1.19
2012	1,008	1,175	1.17
	1,866	1,530	0.82

Table 16. Year class composition, total length (mm), and weight (kg) data taken from a subsample of striped bass collected during the spring Independent Gill Net Survey conducted in the western Albemarle Sound, NC, 2012. Length and weight data are for aged fish only. Standard deviations are listed in parentheses.

					Total Length (mm)			Weight (kg)		
Year class	N Aged	N Expanded	N Total	% Comp	Mean (SD)	Min	Max	Mean (SD)	Min	Max
Male										
2010	52	262	314	26.8	318 (27)	265	385	0.32 (0.08)		
2009	10	0	10	0.9	439 (19)	411	466	0.84 (0.16)		
2008	33	1	34	2.9	487 (29)	447	593	1.17 (0.23)		
2007	7	1	8	0.7	528 (20)	505	570	1.58 (0.26)		
2006	3	0	3	0.3	578 (19)	566	600	2.14 (0.13)		
2005	4	1	5	0.4	585 (25)	560	610	2.15 (0.53)		
Female										
2010	60	437	497	42.4	317 (28)	262	378	0.32 (0.09)		
2009	13	0	13	1.1	435 (11)	412	452	0.78 (0.10)		
2008	32	2	34	2.9	492 (21)	452	528	1.19 (0.22)		
2007	10	0	10	0.9	530 (38)	461	578	1.49 (0.47)		
2006	4	0	4	0.3	545 (36)	512	595	1.69 (0.24)		
2005	5	1	6	0.5	591 (8)	577	597	2.23 (0.27)		
2004	1	0	1	0.1	630			2.90		
Unknown										
2010	14	187	201	17.2	291 (53)	215	392	0.09		
2009	3	1	4	0.3	426 (8)	420	435			
2008	10	9	19	1.6	512 (23)	475	547			
2007	5	1	6	0.5	531 (21)	504	562			
2005	1	1	2	0.2	576					
Totals	267	904	1,171	100.0						

Note: Table may not add due to rounding

Table 17. Daily pooled CPUE (daily catch/daily effort) of striped bass collected by electrofishing on the Roanoke River spawning grounds during 2012. A total of eight sites were sampled during each sampling date. Mean daily discharge from the US Geological Survey gauging station at Roanoke Rapids, NC and mean daily water temperature from field collections are also provided.

Date	Effort (h)	Catch	Pooled CPUE	Discharge (cfs)	Water Temp (^{o}C)
9 April	2.27	152	67.0	8,260	15.8
16 April	2.33	330	141.9	6,560	18.0
19 April	2.21	465	210.7	6,650	17.7
23 April	2.22	322	145.3	6,130	16.9
1 May	2.22	327	147.6	5,390	18.6
8 May	2.22	554	249.2	5,240	21.1
15 May	2.19	421	192.7	5,310	21.4
22 May	1.90	80	42.2	6,360	19.0

Table 18. Year class composition and relative abundance (CPUE; fish/h) of striped bass collected by electrofishing on the Roanoke River spawning grounds, 2011.

		Percent Composition			CPUE (fish/h)		
Year Class	Age	Male	Female	Overall	Male	Female	Overall
2010	2	19.1	3.0	22.1	28.9	4.5	33.4
2009	3	16.9	0.6	17.5	25.5	1.0	26.5
2008	4	28.4	6.7	35.0	42.9	10.1	53.0
2007	5	8.6	1.7	10.3	13.0	2.6	15.6
2006	6	3.4	3.2	6.6	5.1	4.9	10.0
2005	7	3.0	1.1	4.0	4.5	1.6	6.1
2004	8	0.2	0.3	0.5	0.3	0.5	0.7
2003	9	0.1	0.3	0.3	0.1	0.4	0.5
2002	10	0.0	0.3	0.3	0.1	0.4	0.5
2001	11	0.1	0.4	0.5	0.1	0.6	0.7
2000	12		0.5	0.5		0.8	0.8
1999	13	0.04	0.5	0.5	0.1	0.7	0.7
1998	14		0.6	0.6		0.9	0.9
1997	15	0.04	0.6	0.6	0.1	0.9	0.9
1996	16		0.3	0.3		0.5	0.5
1995	17		0.2	0.2		0.3	0.3
Totals		79.7	20.3	100.0	120.5	30.6	151.2

Table 19. Age composition, mean total length (mm), and mean weight (kg) of striped bass collected by electrofishing on the Roanoke River spawning grounds, 2011. Mean lengths and weights were calculated from the ageing subsample. Standard deviations are in parentheses.

					Total Length (mm)			Weight (kg)		
Year Class	N Aged	N Expanded	N Total	% Comp	Mean	Min	Max	Mean	Min	Max
Male										
2010	76	430	506	23.9	319 (23.7)	259	409	0.4 (0.1)	0.2	0.7
2009	43	405	448	21.2	464 (23.5)	362	500	0.9 (0.2)	0.5	1.4
2008	42	710	752	35.6	498 (28.8)	400	595	1.3 (0.3)	0.7	2.2
2007	26	202	228	10.8	533 (37.0)	392	670	2.1 (0.5)	1.1	3.1
2006	19	70	89	4.2	577 (19.8)	480	651	2.1 (0.3)	1.4	2.8
2005	25	54	79	3.7	593(46.4)	518	750	2.8 (0.9)	1.8	5.8
2004	4	1	5	0.2	752 (108.4)	633	859	5.9 (2.1)	2.7	8.1
2003	2	0	2	0.1	908	905	910	8.4 (0.2)	8.2	8.5
2002	1	0	1	0.05	862			7.2		
2001	2	0	2	0.09	925 (159.1)	820	1025	10.0 (3.0)	7.0	13.0
2000	0	0	0	0.0						
1999	1	0	1	0.05	1,062			13.5		
1998	0	0	0	0.0						
1997	1	0	1	0.05	1,137			15.0		
Totals	242	1,872	2,114	100.0						
Female										
2010	42	37	79	14.7	325 (15.4)	277	384	0.3 (0.1)	0.2	0.5
2009	7	10	17	3.2	480 (24.6)	432	500	1.1 (0.2)	0.8	1.5
2008	54	123	177	33.0	525 (29.0)	464	617	1.5 (0.3)	1.0	2.7
2007	18	28	46	8.6	595 (25.7)	445	670	2.4 (0.4)	1.7	3.2
2006	37	49	86	16.0	607 (33.5)	456	690	2.6 (0.5)	1.9	3.6
2005	21	7	28	5.2	685 (59.7)	603	902	3.8 (1.6)	2.3	10.2
2004	7	1	8	1.5	784 (82.8)	663	894	5.9 (1.9)	3.2	8.8
2003	6	1	7	1.3	833 (60.3)	743	903	6.7 (1.5)	4.5	8.5
2002	7	0	7	1.3	951 (106.9)	742	1035	10.7 (2.9)	5.3	13.4
2001	11	0	11	2.0	1,001 (46.6)	930	1074	12.4 (2.4)	9.6	17.2
2000	14	0	14	2.6	1,030 (57.5)	939	1121	14.1 (2.2)	10.6	18.5
1999	11	1	12	2.2	1,075 (48.3)	1012	1138	16.6 (2.3)	13.2	20.5
1998	14	2	16	3.0	1,098 (39.8)	1048	1190	17.7 (2.4)	14.5	23.0
1997	14	1	15	2.8	1,105 (47.7)	1020	1197	17.1 (2.0)	13.6	20.5
1996	9	0	9	1.7	1,137 (28.0)	1080	1181	20.0 (1.5)	17.4	23.0
1995	5	0	5	0.9	1,092 (71.6)	1002	1196	19.2 (3.8)	13.5	24.0
Totals										

Note. Table may not add due to rounding.

Table 20. Year class composition and length of striped bass collected offshore North Carolina and Virginia during the striped bass Cooperative Winter Tagging Survey, 2012.

Year Class	Total length (mm)
2006	635
2004	830
2003	896
2002	907
2000	989
1994	1,171

Figure 1. Length frequency of striped bass sampled from the 2012 calendar year Atlantic Ocean commercial harvest.

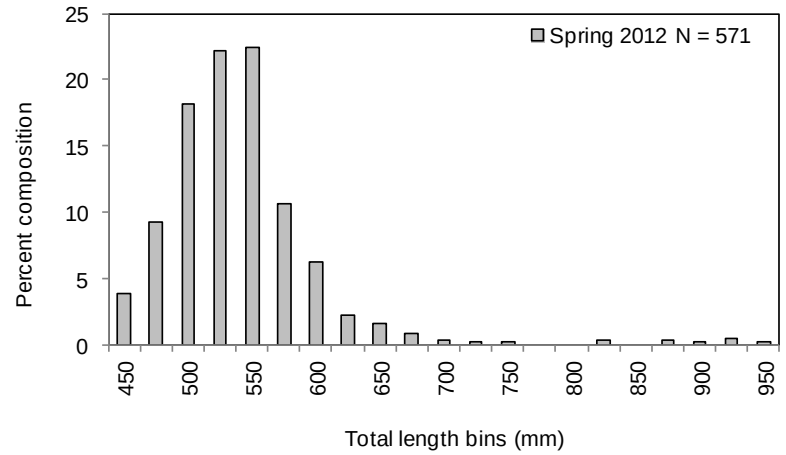

Figure 2. Length frequency of striped bass sampled from the Albemarle Sound Management Area spring 2012 commercial harvest.

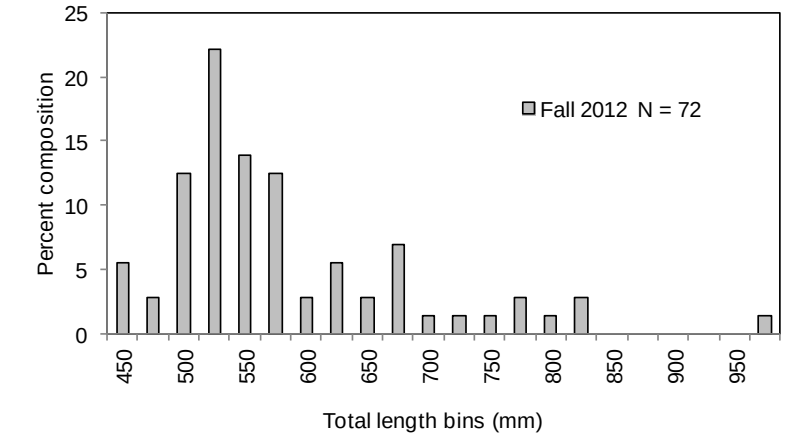

Figure 3. Length frequency of striped bass sampled from the Albemarle Sound Management Area fall 2012 commercial harvest.

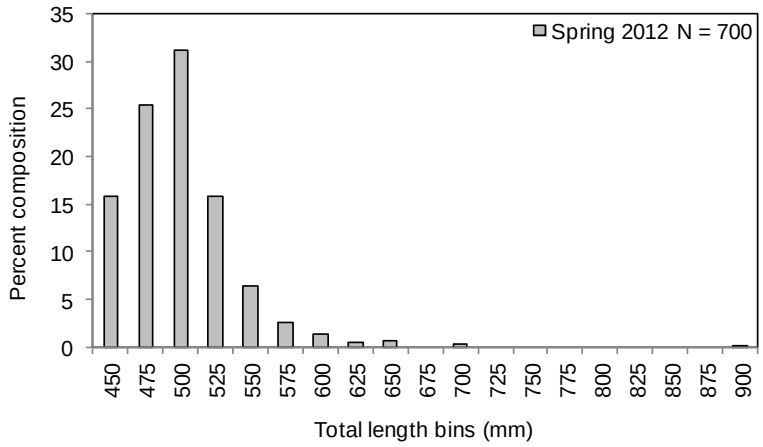

Figure 4. Length frequency of striped bass sampled from the Albemarle Sound Management Area spring 2012 recreational harvest.

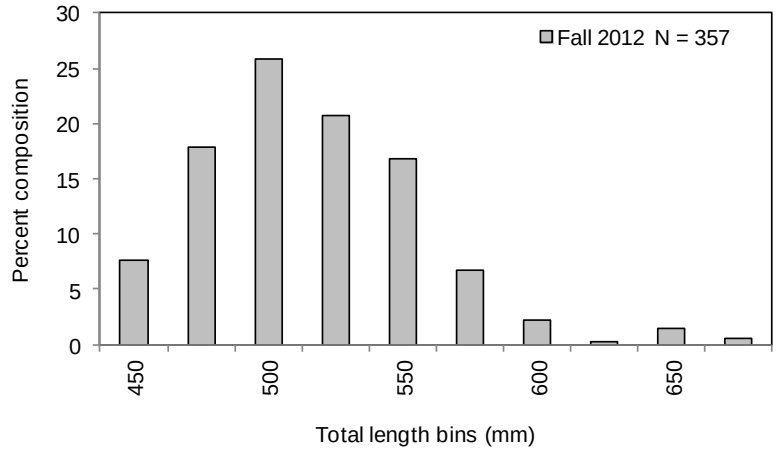

Figure 5. Length frequency of striped bass sampled from the Albemarle Sound Management Area fall 2012 recreational harvest.

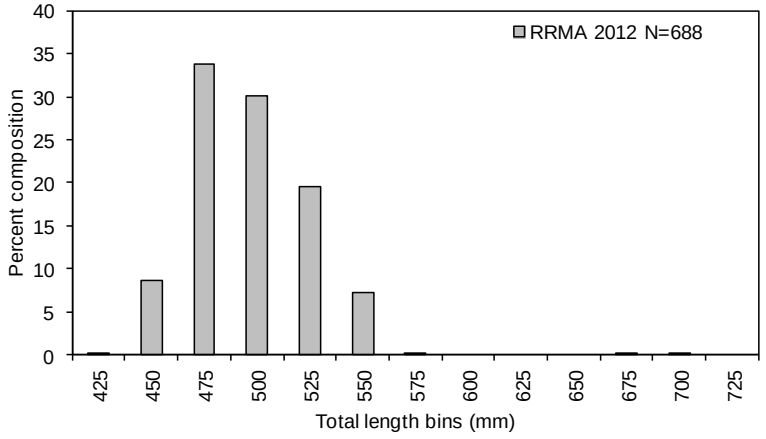

Figure 6. Length frequency of striped bass sampled from the Roanoke River Management Area 2012 recreational harvest. Note the no harvest slot limit of 22-27 inches TL.

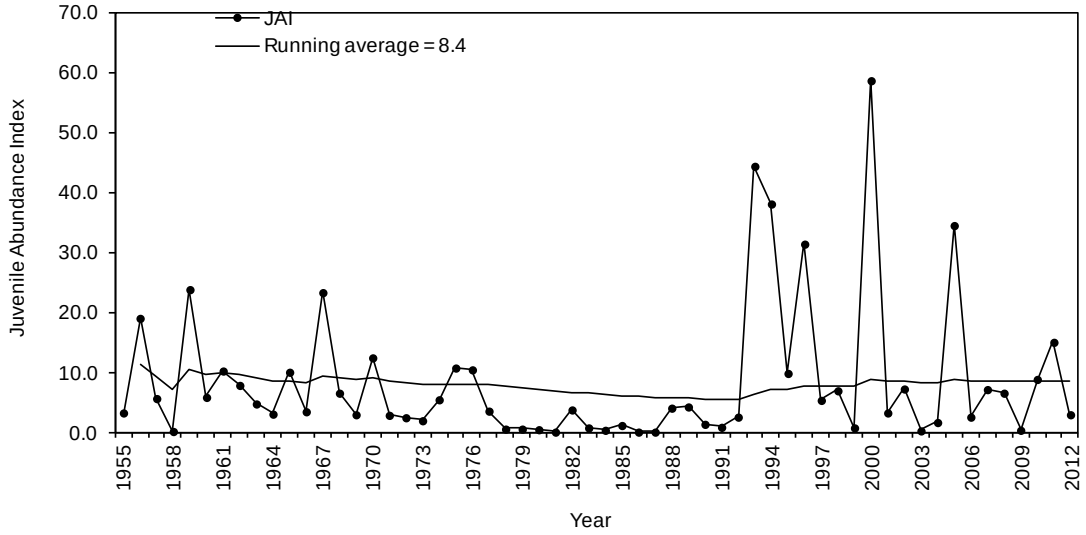

Figure 7. Juvenile Abundance Index (JAI) for A/R striped bass young-of-year trawl sampling in western Albemarle Sound NC 1955-2012.

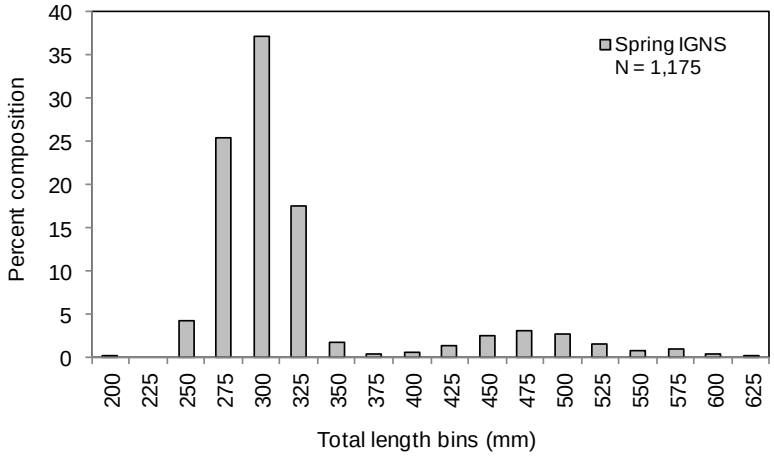

Figure 8. Length frequency of striped bass collected in the NCDMF spring A/R striped bass spawning stock independent gill net survey, western Albemarle Sound, NC, 2012.

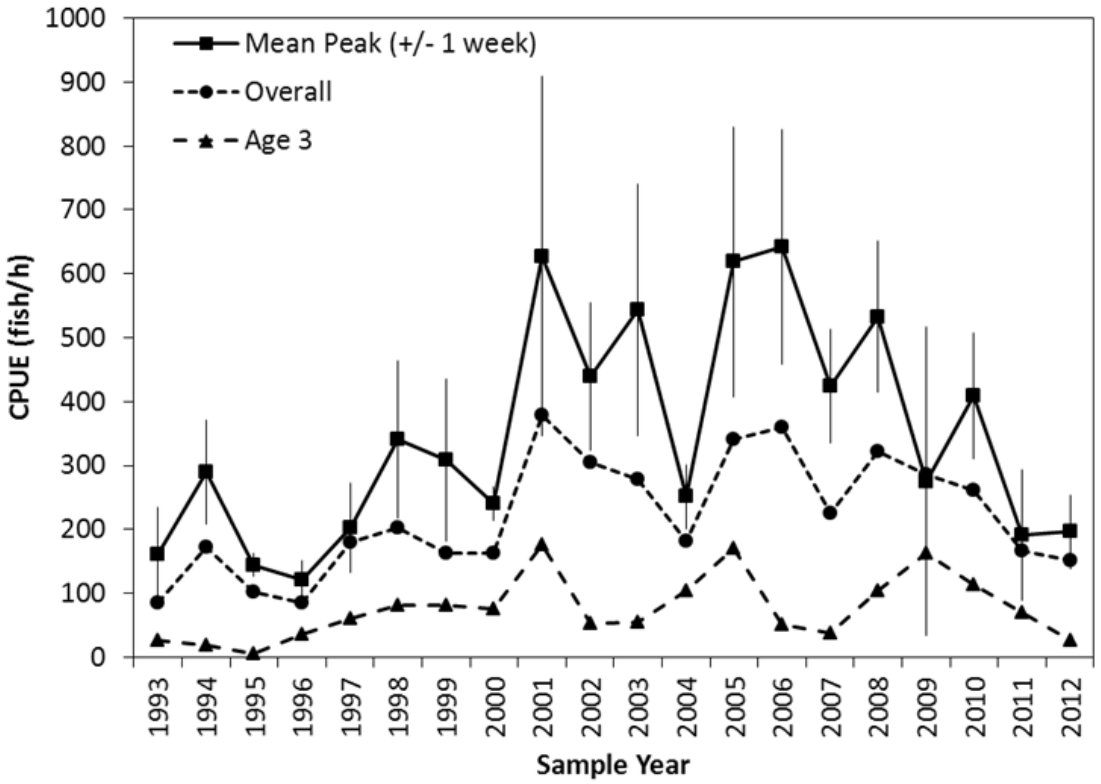

Figure 9. Relative abundance (CPUE; fish/h) of Roanoke River Striped Bass collected by electrofishing during spawning stock surveys at Weldon, NC, 1993–2012. Mean peak CPUE is the average of the peak sample week CPUE and the samples one week before and after the peak for each sample year. Overall CPUE is the sum of fish collected/total electrofishing effort for each sample year, and Age 3 CPUE is the sum of age 3 Striped Bass collected/total electrofishing effort for each sample year. Error bars represent 95% confidence intervals for mean peak CPUE.

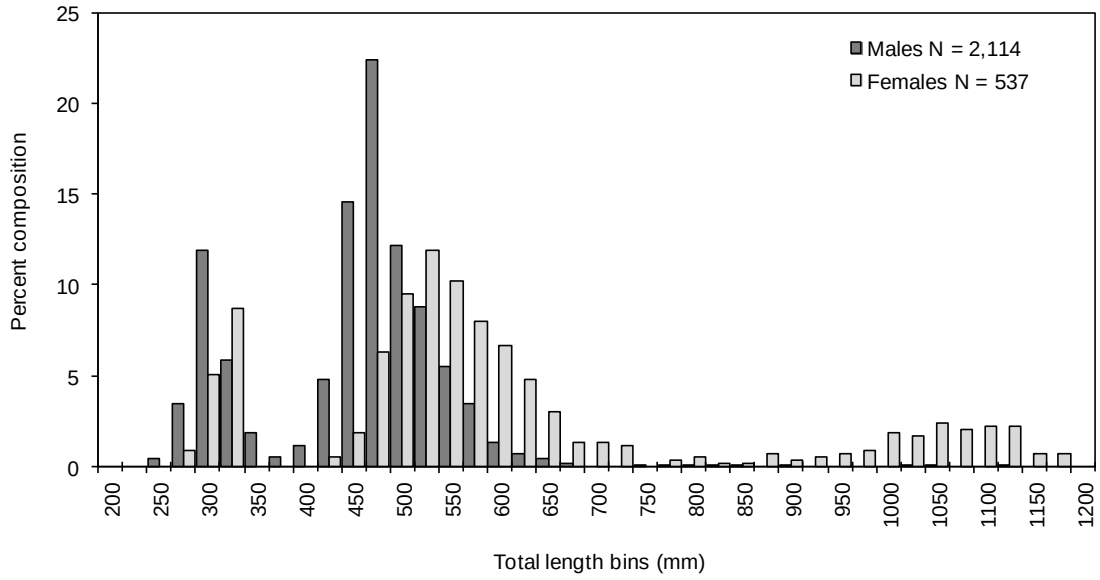

Figure 10. Length frequency histograms for striped bass collected from the Roanoke River, spring 2012. Male and female plots each sum separately to 100.

APPENDIX A1. Proclamations affecting striped bass recreational and commercial fisheries in the Atlantic Ocean and ASMA in NC in 2011. Proclamations can be found at http://portal.ncdenr.org/web/mf/proclamations

ATLANTIC OCEAN GILL NET

Proclamation #	Open Date	Quota	Close Date	Days Open
FF-90-11	01/01/2012	50 fish	Feb 14, 2012	43 days

ATLANTIC OCEAN BEACH SEINE

Proclamation #	Open Date	Quota	Close Date	Days Open
FF-78-2011	12/01/2011	150 fish	Until quota reached	138 days
FF-29-2012			Apr 19, 2012	
FF-60-2012	12/03/2012	150 fish	Until quota reached	

ATLANTIC OCEAN TRAWL

Proclamation #	Open Date	Quota	Close Date	Days Open
FF-1-2012	01/17/2012	100 fish	Until quota reached	92 days
FF-29-2012			Apr 19, 2012	

ASMA – COMMERCIAL

Proclamation #	Open Date	Quota	Close Date	Days Open
FF-86-2011	01/01/2012	10 fish	Apr 30, 2012	194 days
FF-7-2012	02/01/2012	15 fish	Apr 30, 2012	
FF-28-2012	04/15/2012	10 fish	Apr 30, 2012	
FF-43-2012	10/01/2012	10 fish	December 31, 2012	

ASMA – RECREATIONAL

Proclamation #	Open Date	Quota	Close Date	Days Open
FF-67-2011	10/01/2011	3 fish	Apr 30, 2012	212 days
FF-42-2012	10/01/2012	3 fish	Apr 30, 2013	212 days

RECREATIONAL ATLANTIC OCEAN OCRACOKE INLET TO NC/VA STATE LINE

Proclamation #	Open Date	Quota	Close Date	Days Open
FF-32-2011	05/01/2012	2 fish	Oct 31, 2012	180 days